

**WHAT IS CLAIMED IS:**

1. Excavator drum for the production of vertical  
5 trenches, comprising:

a cylindrical shell mounted so as to rotate about  
its axis of revolution and having end faces; and

a plurality of excavating tools mounted on the  
external face of the said shell, said tools comprising:

10 • a plurality of first rollers mounted so as to  
rotate about axes making an angle of less than  
45 degrees with the rotation axis of the drum, the  
external wall of which is a surface of revolution that  
is symmetrical with respect to the mid-plane of the  
15 roller orthogonal to its rotation axis, the said mid-  
plane substantially merging with the mid-plane of the  
shell; the said external wall being equipped with  
cutting elements; and the length of which is less than  
the length of the shell; and

20 • a plurality of pairs of second rollers, each  
roller of the same pair being mounted so as to rotate  
about a cantilever axle whose support is mounted on the  
central area of the shell, the axles make an angle  
< 30 degrees with the axis of the shell, each roller  
25 having a width at least equal to the distance that  
separates one end of a first roller from the  
corresponding end of the shell, the casing of the  
external end of the second rollers being at least in  
the plane containing one end of the shell, the pairs of  
30 second rollers being angularly offset in relation to  
one another and with respect to the first rollers, the  
external wall of each second roller being fitted with  
cutting elements, whereby the drilling area for the  
pairs of second rollers partially overlaps the drilling  
35 area for the first rollers.

2. Excavator drum according to Claim 1, wherein the  
axis of the first rollers makes an angle of between 1  
and 10 degrees with the axis of the shell.

3. Excavator drum according to Claim 1, wherein said second rollers make an angle of between 1 and 10 degrees with the axis of the shell.

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4. Excavator drum according to Claim 1, wherein said second rollers are cylindrical and their rotation axes are substantially parallel to the rotation axis of the shell.

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5. Excavator drum according to Claim 1, wherein the centre of the axis of the first rollers is substantially in the mid-plane of the said shell, orthogonal to its rotation axis.

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6. Excavator drum according to Claim 1, wherein the centre of the axis of said first rollers is alternately arranged on either side of the mid-plane of the shell, orthogonal to its rotation axis.

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7. Excavator drum according to Claim 1, wherein the external sides of the second rollers are fitted, at least in their peripheral area, with cutting elements.

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8. Excavator drum according to Claim 1, wherein the rotation axis of each first roller is mounted, at each of its ends, in a bearing integral with the external wall of the shell.

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9. Excavator drum according to Claim 1, wherein said first rollers are cylindrical.

10. Excavator drum according to Claim 1, wherein said first rollers have a barrel shape.

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11. Excavator drum according to Claim 1, wherein said cutting elements are studs.

12. Excavator drum according to Claim 1, wherein the width of the said first rollers is at least equal to half the width of the shell.